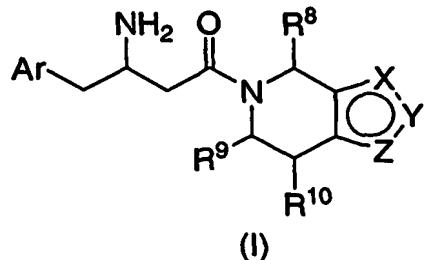


WHAT IS CLAIMED IS:**1. A compound of structural formula I:**

5 or a pharmaceutically acceptable salt thereof; wherein
each n is independently 0, 1, or 2;

X, Y and Z are independently selected from the group consisting of:

10 (1) CR¹,
 (2) NR²,
 (3) N,
 (4) O, and
 (5) S;

15 with the provisos that at least one of X, Y and Z is not CR¹ and two of X, Y, and Z cannot be O and/or S;

Ar is phenyl substituted with one to five R³ substituents;

20 each R¹ is independently selected from the group consisting of
 hydrogen,
 halogen,
 hydroxy,
 cyano,
 25 C₁₋₁₀ alkyl, wherein alkyl is unsubstituted or substituted with one to five substituents
 independently selected from halogen or hydroxy,
 C₁₋₁₀ alkoxy, wherein alkoxy is unsubstituted or substituted with one to five substituents
 independently selected from halogen or hydroxy,

C1-10 alkylthio, wherein alkylthio is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,
C2-10 alkenyl, wherein alkenyl is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, COOH, and COOC₁₋₆ alkyl,
(CH₂)_nCOOH,
(CH₂)_nCOOC₁₋₆ alkyl,
(CH₂)_nCONR⁴R⁵, wherein R⁴ and R⁵ are independently selected from the group consisting of hydrogen, tetrazolyl, thiazolyl, (CH₂)_n-phenyl, (CH₂)_n-C₃₋₆ cycloalkyl, and C₁₋₆ alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;
or R⁴ and R⁵ together with the nitrogen atom to which they are attached form a heterocyclic ring selected from azetidine, pyrrolidine, piperidine, piperazine, and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;
(CH₂)_n-NR⁴R⁵,
(CH₂)_n-OCONR⁴R⁵,
(CH₂)_n-SO₂NR⁴R⁵,
(CH₂)_n-SO₂R⁶,
(CH₂)_n-NR⁷SO₂R⁶,
(CH₂)_n-NR⁷CONR⁴R⁵,
(CH₂)_n-NR⁷COR⁷,
(CH₂)_n-NR⁷CO₂R⁶,
(CH₂)_n-COR⁷,
(CH₂)_n-C₃₋₆ cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,
(CH₂)_n-aryl, wherein aryl is unsubstituted or substituted with one to five substituents independently selected from halogen, cyano, hydroxy, NR⁷SO₂R⁶, SO₂R⁶,

CO₂H, COOC₁₋₆ alkyl, C₁₋₆ alkyl, and
C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one
to five halogens,
5 (CH₂)_n-heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three
substituents independently selected from hydroxy, halogen, C₁₋₆ alkyl, and C₁₋₆
alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five
halogens, and
10 (CH₂)_n-heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to
three substituents independently selected from oxo, hydroxy, halogen, C₁₋₆ alkyl,
and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with
one to five halogens,
15 wherein any methylene (CH₂) carbon atom in R¹ is unsubstituted or substituted with one
to two groups independently selected from halogen, hydroxy, and C₁₋₄ alkyl
unsubstituted or substituted with one to five halogens;
each R² is independently selected from the group consisting of
hydrogen,
C₁₋₁₀ alkyl, wherein alkyl is unsubstituted or substituted with one to five substituents
20 independently selected from halogen or hydroxy,
C₂₋₁₀ alkenyl, wherein alkenyl is unsubstituted or substituted with one to five
substituents independently selected from halogen or hydroxy,
(CH₂)_nCOOH,
(CH₂)_nCOOC₁₋₆ alkyl,
25 (CH₂)_nCONR⁴R⁵, wherein R⁴ and R⁵ are independently selected from the group
consisting of hydrogen, tetrazolyl, thiazolyl, (CH₂)_n-phenyl, (CH₂)_n-C₃₋₆
cycloalkyl, and C₁₋₆ alkyl, wherein alkyl is unsubstituted or substituted with one
to five halogens and wherein phenyl and cycloalkyl are unsubstituted or
substituted with one to five substituents independently selected from halogen,
hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted
30 or substituted with one to five halogens;
or R⁴ and R⁵ together with the nitrogen atom to which they are attached form a
heterocyclic ring selected from azetidine, pyrrolidine, piperidine, piperazine, and
morpholine wherein said heterocyclic ring is unsubstituted or substituted with one
to five substituents independently selected from halogen, hydroxy,

(CH₂)_nCOOC₁₋₆ alkyl, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens or one phenyl;

(CH₂)_n-COR⁷,

(CH₂)_n-SO₂NR⁴R⁵,

5 (CH₂)_n-SO₂R⁶,

(CH₂)_n-C₃₋₆ cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

10 (CH₂)_n-aryl, wherein aryl is unsubstituted or substituted with one to five substituents independently selected from halogen, cyano, hydroxy, NR⁷SO₂R⁶, SO₂R⁶, CO₂H, C₁₋₆ alkyloxycarbonyl, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

15 (CH₂)_n-heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three substituents independently selected from hydroxy, halogen, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens, and

(CH₂)_n-heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

20 wherein any methylene (CH₂) carbon atom in R² is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C₁₋₄ alkyl

25 unsubstituted or substituted with one to five halogens;

each R³ is independently selected from the group consisting of

hydrogen,

halogen,

30 cyano,

hydroxy,

C₁₋₆ alkyl, unsubstituted or substituted with one to five halogens, and

C₁₋₆ alkoxy, unsubstituted or substituted with one to five halogens;

R^6 is independently selected from the group consisting of tetrazolyl, thiazolyl, $(CH_2)_n$ -phenyl, $(CH_2)_n$ -C₃₋₆ cycloalkyl, and C₁₋₆ alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy,

5 wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens, and wherein any methylene (CH₂) carbon atom in R^6 is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, C₁₋₄ alkyl, and C₁₋₄ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

10 each R^7 is hydrogen or R^6 ;

R^8 , R^9 and R^{10} are each independently selected from the group consisting of

hydrogen,

15 cyano,

$(CH_2)_nCOOH$,

$(CH_2)_nCOOC_{1-6}$ alkyl,

C₁₋₆ alkyloxycarbonyl,

C₁₋₁₀ alkyl, unsubstituted or substituted with one to five substituents independently

20 selected from halogen, hydroxy, C₁₋₆ alkoxy, and phenyl-C₁₋₃ alkoxy, wherein

alkoxy is unsubstituted or substituted with one to five halogens,

25 $(CH_2)_n$ -aryl, wherein aryl is unsubstituted or substituted with one to five substituents

independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy,

wherein alkyl and alkoxy are unsubstituted or substituted with one to five

halogens,

30 $(CH_2)_n$ -heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three

substituents independently selected from hydroxy, halogen, C₁₋₆ alkyl, and C₁₋₆

alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five

halogens,

$(CH_2)_n$ -heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to

35 three substituents independently selected from oxo, hydroxy, halogen, C₁₋₆ alkyl,

and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with

one to five halogens,

$(CH_2)_n$ -C₃₋₆ cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to

40 three substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and

C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens, and

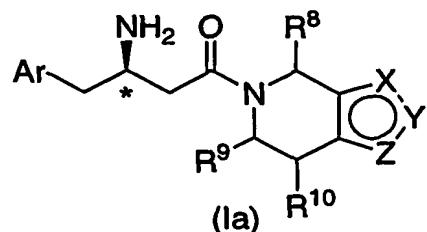
(CH₂)_nCONR⁴R⁵, wherein R⁴ and R⁵ are independently selected from the group consisting of hydrogen, tetrazolyl, thiazolyl, (CH₂)_n-phenyl, (CH₂)_n-C₃₋₆ cycloalkyl, and C₁₋₆ alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

5 or R⁴ and R⁵ together with the nitrogen atom to which they are attached form a heterocyclic ring selected from azetidine, pyrrolidine, piperidine, piperazine, and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, (CH₂)_nCOOC₁₋₆ alkyl, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy

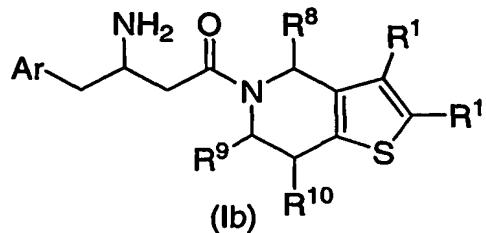
10 are unsubstituted or substituted with one to five halogens or one phenyl; and

15 wherein any methylene (CH₂) carbon atom in R⁸, R⁹ or R¹⁰ is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C₁₋₄ alkyl unsubstituted or substituted with one to five halogens.

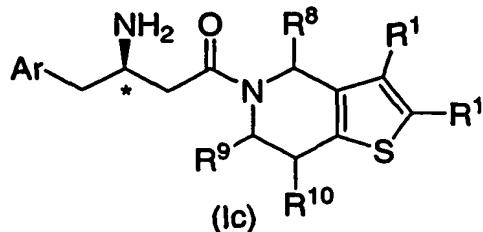
20 2. The compound of Claim 1 of the structural formula Ia wherein the carbon atom marked with an * has the R stereochemical configuration



3. The compound of Claim 1 of the structural formula Ib

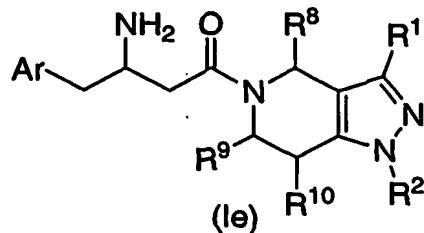


4. The compound of Claim 3 of the structural formula Ic wherein the carbon atom marked with an * has the *R* stereochemical configuration

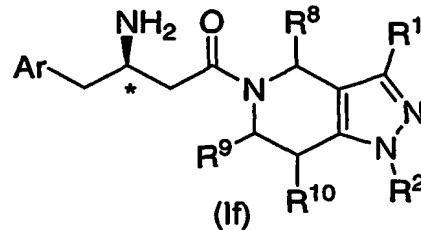


5. The compound of Claim 3 wherein R9 and R10 are hydrogen.

6. The compound of Claim 1 of the structural formula Ie



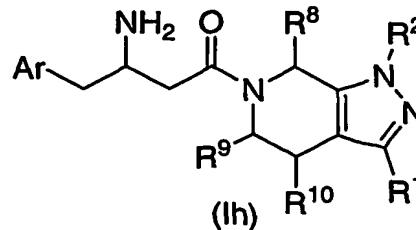
7. The compound of Claim 6 of the structural formula If wherein the carbon atom marked with an * has the *R* stereochemical configuration



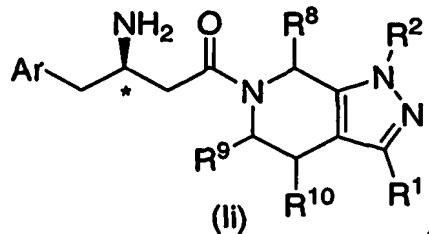
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8. The compound of Claim 6 wherein R9 and R10 are hydrogen.

9. The compound of Claim 1 of the structural formula Ih



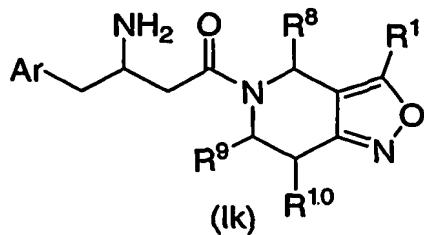
10. The compound of Claim 9 of the structural formula Ii wherein the carbon atom marked with an * has the *R* stereochemical configuration



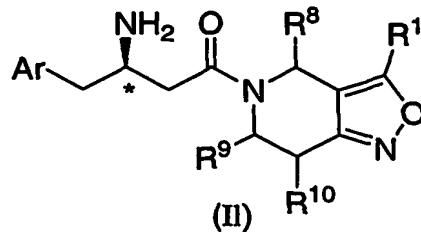
11. The compound of Claim 9 wherein R⁹ and R¹⁰ are hydrogen.

5

12. The compound of Claim 1 of the structural formula I_k



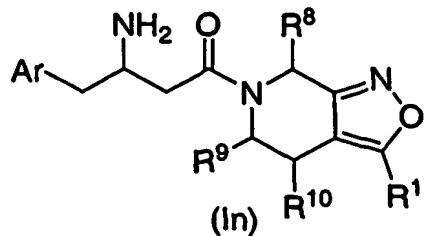
13. The compound of Claim 12 of the structural formula II wherein the carbon atom marked with an * has the *R* stereochemical configuration



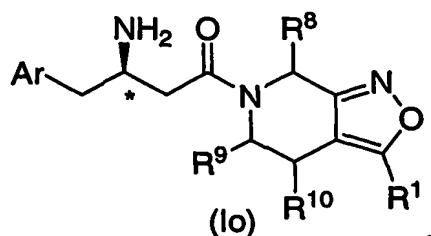
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14. The compound of Claim 12 wherein R⁹ and R¹⁰ are hydrogen.

15. The compound of Claim 1 of the structural formula In

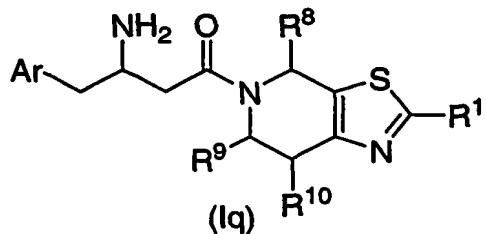


16. The compound of Claim 15 of the structural formula I_o wherein the carbon atom marked with an * has the R stereochemical configuration

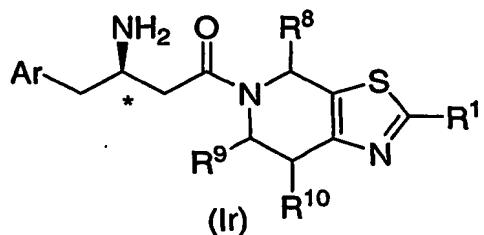


5 17. The compound of Claim 15 wherein R⁹ and R¹⁰ are hydrogen.

18. The compound of Claim 1 of structural formula I_q

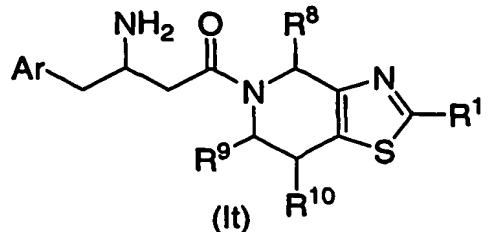


10 19. The compound of Claim 18 of the structural formula I_r wherein the carbon atom marked with an * has the R stereochemical configuration

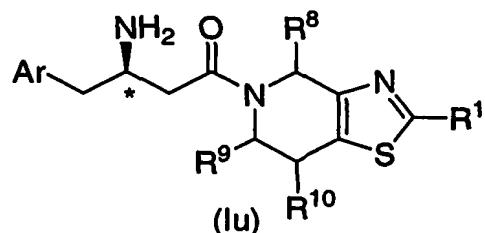


20. The compound of Claim 18 wherein R⁹ and R¹⁰ are hydrogen.

21. The compound of Claim 1 of the structural formula I_t



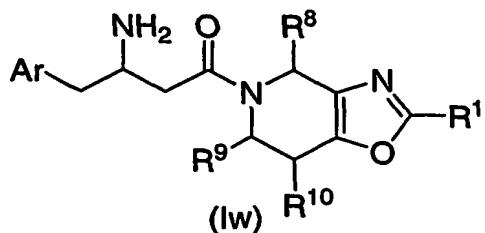
22. The compound of Claim 21 of the structural formula I_u wherein the carbon atom marked with an * has the *R* stereochemical configuration



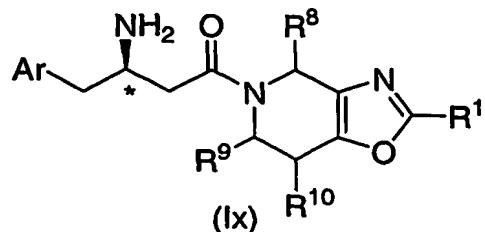
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23. The compound of Claim 21 wherein R9 and R10 are hydrogen.

24. The compound of Claim 1 of the structural formula I_w

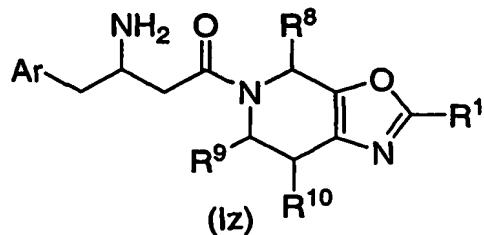


10 25. The compound of Claim 24 of the structural formula I_x wherein the carbon atom marked with an * has the *R* stereochemical configuration

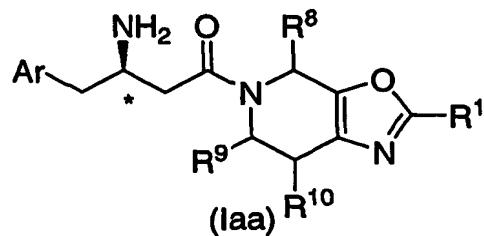


26. The compound of Claim 24 wherein R9 and R10 are hydrogen.

27. The compound of Claim 1 of the structural formula I_z

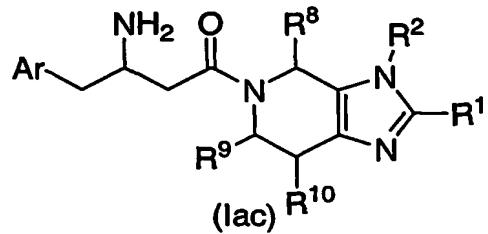


28. The compound of Claim 27 of the structural formula I_{aa} wherein the
5 carbon atom marked with an * has the *R* stereochemical configuration



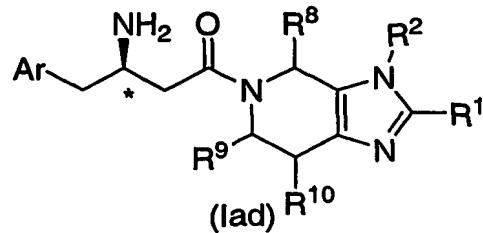
29. The compound of Claim 27 wherein R⁹ and R¹⁰ are hydrogen.

30. The compound of Claim 1 of the structural formula I_{ac}



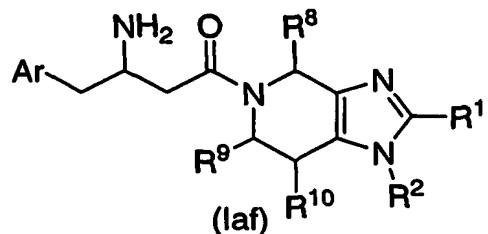
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31. The compound of Claim 30 of the structural formula I_{ad} wherein the
carbon atom marked with an * has the *R* stereochemical configuration

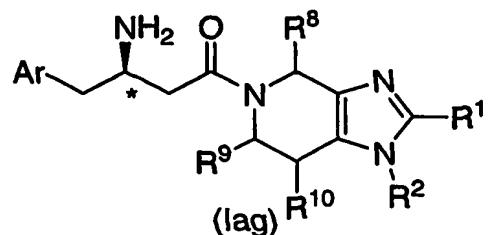


32. The compound of Claim 30 wherein R⁹ and R¹⁰ are hydrogen.

33. The compound of Claim 1 of the structural formula Iaf

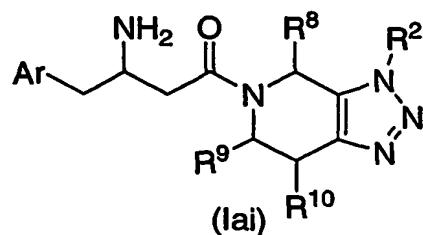


5 34. The compound of Claim 33 of the structural formula Ig wherein the carbon atom marked with an * has the *R* stereochemical configuration

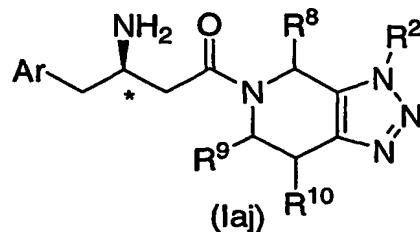


35. The compound of Claim 33 wherein R⁹ and R¹⁰ are hydrogen.

10 36. The compound of Claim 1 of the structural formula Iai

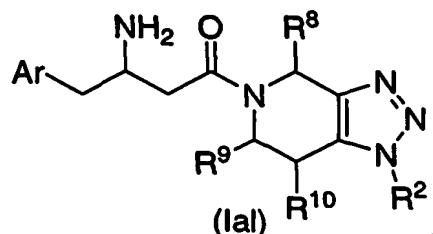


37. The compound of Claim 36 of the structural formula Iaj wherein the carbon atom marked with an * has the R stereochemical configuration

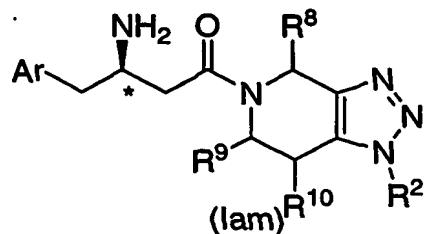


38. The compound of Claim 36 wherein R⁹ and R¹⁰ are hydrogen.

39. The compound of Claim 1 of the structural formula Ial



5 40. The compound of Claim 39 of the structural formula Iam wherein the carbon atom marked with an * has the R stereochemical configuration



41. The compound of Claim 39 wherein R⁹ and R¹⁰ are hydrogen.

10 42. The compound of Claim 1 wherein R³ is selected from the group consisting of hydrogen, fluoro, chloro, bromo, trifluoromethyl, and methyl.

15 43. The compound of Claim 1 wherein R¹ is selected from the group consisting of:

hydrogen,

halogen,

hydroxy,

C₁-10 alkyl, wherein alkyl is unsubstituted or substituted with one to five substituents

independently selected from halogen or hydroxy,

20 C₂-10 alkenyl, wherein alkenyl is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, COOH, and COOC₁-6 alkyl,

(CH₂)_n-C₃-6 cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C₁-6 alkyl, and

C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens, and

(CH₂)_n-aryl, wherein aryl is unsubstituted or substituted with one to five substituents independently selected from halogen, cyano, hydroxy, NR⁷SO₂R⁶, SO₂R⁶, CO₂H, COOC₁₋₆ alkyl, C₁₋₆ alkyl, and

C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens; and

wherein any methylene (CH₂) carbon atom in R¹ is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C₁₋₄ alkyl unsubstituted or substituted with one to five halogens;

44. The compound of Claim 43 wherein R¹ is selected from the group consisting of

hydrogen,

methyl,

ethyl,

trifluoromethyl,

CH₂CF₃,

CF₂CF₃,

phenyl,

4-(methoxycarbonyl)phenyl,

4-fluorophenyl,

4-(trifluoromethyl)phenyl,

4-(methylsulfonyl)phenyl,

cyclopropyl,

fluoro,

chloro,

bromo, and

2-(methoxycarbonyl)vinyl.

45. The compound of Claim 1 wherein R² is selected from the group consisting of

hydrogen,

C₁₋₆ alkyl, wherein alkyl is unsubstituted or substituted with one to five substituents

independently selected from halogen or hydroxy,

$(CH_2)_n$ -aryl, wherein aryl is unsubstituted or substituted with one to five substituents independently selected from halogen, CN, hydroxy, $NR^7SO_2R^6$, SO_2R^6 , CO_2H , $COOC_{1-6}$ alkyl, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens; and
5 wherein any methylene (CH_2) carbon atom in R^2 is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C_{1-4} alkyl unsubstituted or substituted with one to five halogens.

10 46. The compound of Claim 45 wherein R^2 is selected from the group consisting of:

hydrogen,
methyl,
 CH_2CF_3 ,

15 isobutyl,
4-(trifluoromethyl)benzyl, and
4-fluorobenzyl.

47. The compound of Claim 1 wherein R^8 , R^9 , and R^{10} are independently selected from the group consisting of:

hydrogen,
 C_{1-10} alkyl, unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkoxy, and phenyl- C_{1-3} alkoxy, wherein alkoxy is unsubstituted or substituted with one to five halogens,

25 $(CH_2)_n$ -aryl, wherein aryl is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

30 $(CH_2)_n$ - C_{3-6} cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens, and

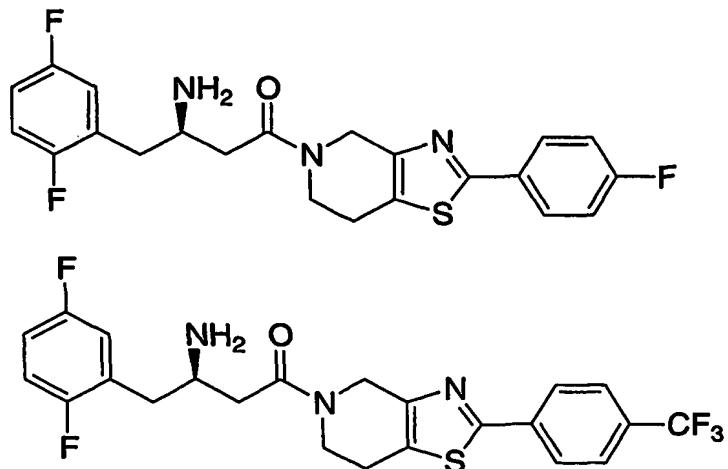
wherein any methylene (CH_2) carbon atom in R^8 , R^9 or R^{10} is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C_{1-4} alkyl unsubstituted or substituted with one to five halogens.

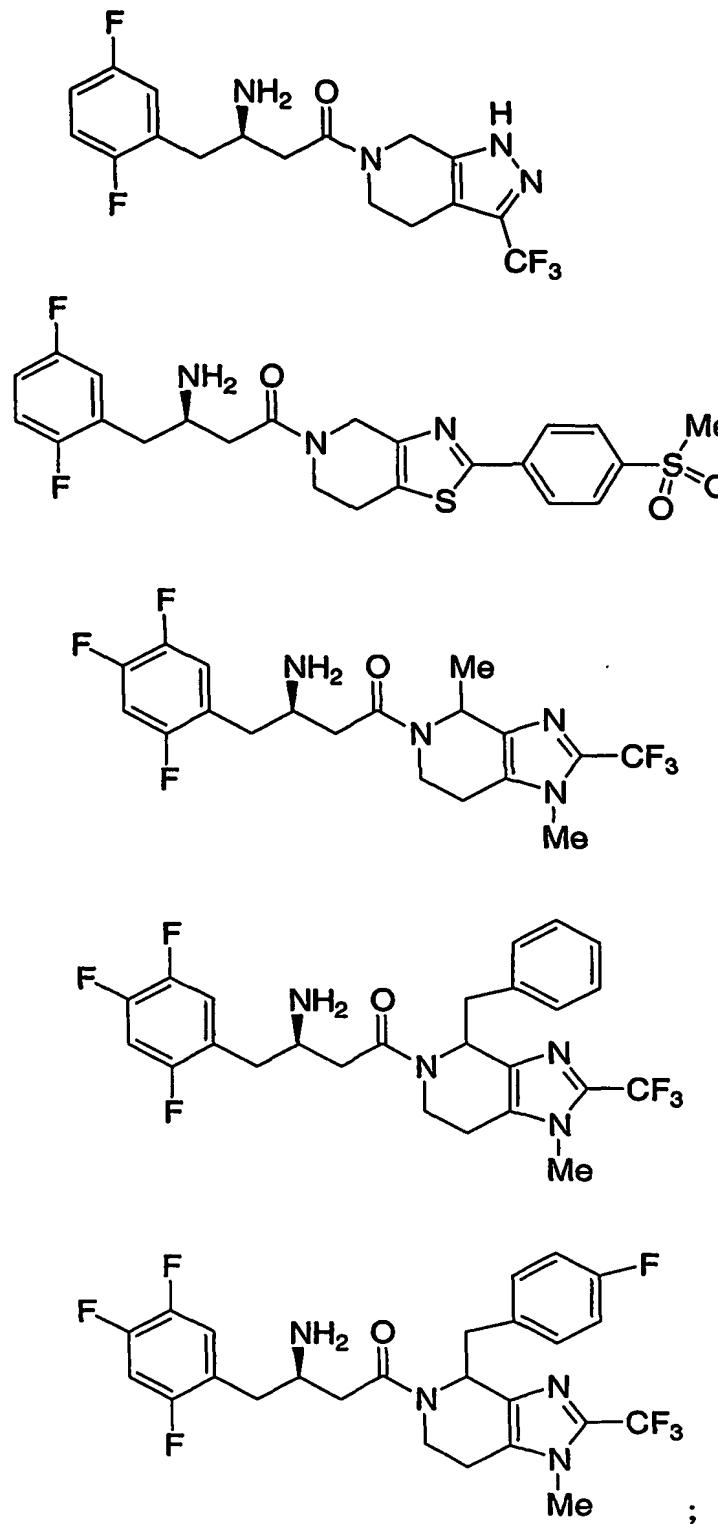
5 48. The compound of Claim 47 wherein R^8 , R^9 , and R^{10} are each independently selected from the group consisting of

hydrogen,
trifluoromethyl,
methyl,
10 ethyl,
cyclopropyl,
 $\text{CH}_2\text{-Ph}$, and
 $\text{CH}_2(4\text{-F-Ph})$.

15 49. The compound of Claim 48 wherein R^9 and R^{10} are hydrogen.

50. The compound of Claim 49 which is selected from the group consisting of:





51. A pharmaceutical composition which comprises a compound of Claim 1 and a pharmaceutically acceptable carrier.

5 52. Use of a compound in accordance with Claim 1 in the manufacture of a medicament for use in treating a condition selected from the group consisting of hyperglycemia, Type 2 diabetes, obesity, and a lipid disorder in a mammal.

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